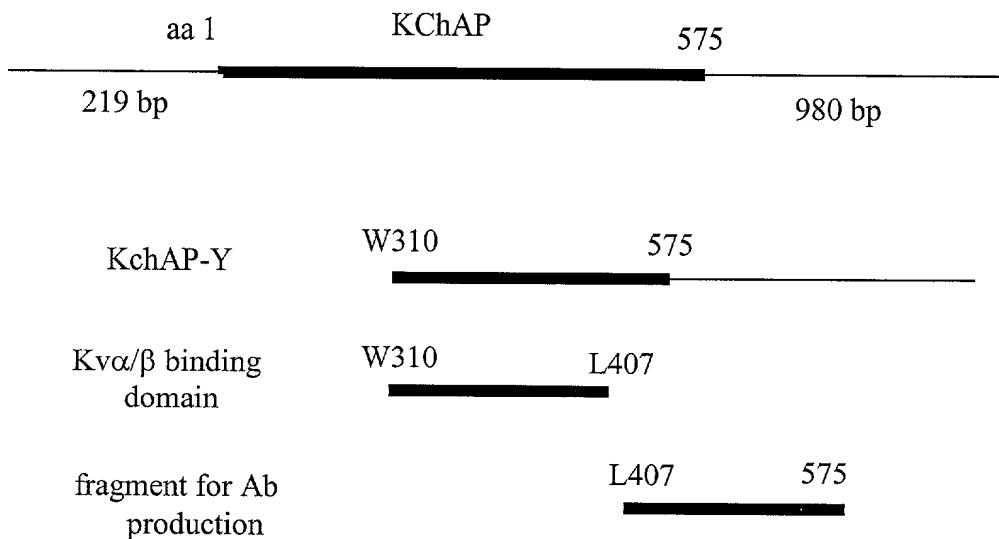


Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.
Attorney Docket Number: 222884/04066

Fig. 1



Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON
CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.
Attorney Docket Number: 222884/04066

Fig. 2A

atgaagatcaaagaactttaccgcaggcgcttccccggaagaccctgggccttcgat
1 M K I K E L Y R R R F P R K T L G R S D 60
-
ctctcttgctctttgccccctggcacctctcctgttaggctccccagcccccttgat
61 L S L L S L P P G T S P V G S P S P L A 120
-
A
p
a
I
tccattcctcccaccctcctgaccctggcacctgctggccctaagcgtgaggtggac
121 S I P P T L L T P G T L L G P K R E V D 180
-
A
a
t
I
I
atgcaccctcctctgccccagcctgtgcaccctgacgtcaccatgaaaccactgccc
181 M H P P L P Q P V H P D V T M K P L P F 240
-
E
a
g
I
tacgaagtctacggagagctatccggccgaccacccttgcgtccacccctcagtcagagg
241 Y E V Y G E L I R P T T L A S T S S Q R 300
-
P
v p
u s
I t
I I
tttgaggaagcccacttacccactttgcactcactccccagcagctgcagcagattctcaca
301 F E E H H F T F A L T P Q Q L Q Q I L T 360
-

Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON
CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.
Attorney Docket Number: 222884/04066

Fig. 2B

tccaggagggttctgccaggagccaagtgcgattataccataacaagtgcagctcaggttc
361 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 420
S R E V L P G A K C D Y T I Q V Q L R F -

P
v
u
I
I
tgtctctgtgagaccagctgccccaggaggactattccccctaacctcttgcgtcaag
421 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 480
C L C E T S C P Q E D Y F P P N L F V K -

B
s
t
E
I
I
gttaatggaaactctgccccctgcgggttacccctccaaaccaagaatggagctgag
481 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 540
V N G K L C P L P G Y L P P T K N G A E -

S
t
u
I
cccaagaggcctagtcgtccaatcaacatcacacccctggctcgctctcagccactgtt
541 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 600
P K R P S R P I N I T P L A R L S A T V -

H
p
a
I
cccaacaccatagtggttaactggcatctgagttggacggaattactcctgtctgt
601 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 660
P N T I V V N W S S E F G R N Y S L S V -

Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON
CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.
Attorney Docket Number: 222884/04066

Fig. 2C

B
s
a
w
I
p
s
t
I
tacctggtgaggcagttgactgcagggaccctgctacaaaagctcagagccaagggtatc
661 Y L V R Q L T A G T L L Q K L R A K G I - 720

A
v
a
I
cggaaatccagaccattcccgagcactgatcaaggagaaattgactgctgaccccgacagt
721 R N P D H S R A L I K E K L T A D P D S - 780

gaagtggctactacaagtctccgggtgtcactcatgtgcccgtgggaaagatgcgcctg
781 E V A T T S L R V S L M C P L G K M R L - 840

P
s
t
I
actgtcccatgccgcgtctcacctgtgcccacctgcagagttcgatgctgcccttat
841 T V P C R A L T C A H L Q S F D A A L Y - 900

ctacagatgaatgagaaaaagccaacatggacgtgccctgtgtgacaagaaggctccc
901 L Q M N E K K P T W T C P V C D K K A P - 960

tatgagtcaactgattattgatggttattcatgaaattcttaattcctgttcggattgt
961 Y E S L I I D G L F M E I L N S C S D C - 1020

P B
f a
l m
M H
I I
gatgagatccagttcatggaagatggatcctgggtccaatgaaacccaagaaggaggca
1021 D E I Q F M E D G S W C P M K P K K E A - 1080

Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON
CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.
Attorney Docket Number: 222884/04066

Fig. 2D

P
f
l
M
I
tccgagggttgcacccaccaggatggatggatggctccatgcggatccag
1081-----+-----+-----+-----+-----+-----+-----+ 1140
S E V C P P G Y G L D G L Q Y S P V Q -

gagggaaatcagtcagagaataagaagagggttgaagtcattgacttgacaatcgaaagc
1141-----+-----+-----+-----+-----+-----+-----+ 1200
E G N Q S E N K K R V E V I D L T I E S -

B
g
l
I
I
tcatcagatgaggaagatctgcacccaccaagaaggactgcctgttacctcggtgcc
1201-----+-----+-----+-----+-----+-----+-----+ 1260
S S D E E D L P P T K K H C P V T S A A -

B
s
t
E
I
I
attccagcccttccttgcgaaaggccctgacctctggcaccagccgtttcggtg
1261-----+-----+-----+-----+-----+-----+-----+ 1320
I P A L P G S K G A L T S G H Q P S S V -

ctgcggagccctgcaatgggtacactggcactgtgatccctgtcttagtctccactacat
1321-----+-----+-----+-----+-----+-----+-----+ 1380
L R S P A M G T L G S D F L S S L P L H -

gagtaccacactgcctccgctggggctgacatccaaggtttagatttttttttc
1381-----+-----+-----+-----+-----+-----+-----+ 1440
E Y P P A F P L G A D I Q G L D L F S F -

cttcagactgagagtcaactacagcccttcagttatcacttcactagatgaggac
1441-----+-----+-----+-----+-----+-----+-----+ 1500
L Q T E S Q H Y S P S V I T S L D E Q D -

Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON
CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.
Attorney Docket Number: 222884/04066

Fig. 2E

P
 f A
 l p
 M a
 I I
 acccttggccacttccaattccggggacccctcccaacttcctggccactggcc
 1501-----+-----+-----+-----+-----+-----+-----+ 1560
 T L G H F F Q F R G T P P H F L G P L A -

 cccacattggggagctctcaccgcagcgccactccagcaccggctctggccgtcagc
 1561-----+-----+-----+-----+-----+-----+-----+ 1620
 P T L G S S J R S A T P A P A P G R V S -

 B
 s
 a
 W
 I
 agcattgtggctcctggagttccttggggatggggatggaggaccctgccttccgg
 1621-----+-----+-----+-----+-----+-----+-----+ 1680
 S I V A P G S S L R E G H G G P L P S G -

 A
 a
 t
 I
 I
 ccctttgactggctgtcggtcagacgtcattccttggactga
 1681-----+-----+-----+-----+-----+-----+-----+ 1725
 P S L T G C R S D V I S L D * -

Enzymes that do cut:

AatII	Apal	AvaI	BamHI	BglII	BsaWI	BstEII	EagI
HpaI	PflMI	PstI	PvuII	StuI			

Enzymes that do not cut:

AgeI	AseI	BbrPI	BfrI	BsaBI	BsmI	BssHII	BstbI
BstXI	Clal	DraI	DraIII	EcoRI	HindIII	KpnI	MluI
NarI	NcoI	NdeI	NheI	NotI	NruI	NsiI	PmlI
PvuI	SacII	SalI	SauI	ScaI	SfiI	SmaI	SnaBI
SpeI	SspI	XbaI	XhoI				

Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON
CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.
Attorney Docket Number: 222884/04066

Fig. 3A

A
p
a
I
atgaagatcaaagagcttaccgacgacgcttccccggaagaccctggggccctctgat
1 M K I K E L Y R R F P R K T L G P S D - 60
ctctcccttctctttgccccctggcacctctcctgttaggctccctggtcctctagct
61 L S L L S L P P G T S P V G S P G P L A - 120
A
p
a
I
cccattcccccaacgctgtggccctggcacccctgctggggcccaagcgtgaggtggac
121 P I P P T L L A P G T L L G P K R E V D - 180
atgcacccccccttgccccagcctgtgcacccctgatgtcaccatgaaaccattgcccttc
181 M H P P L P Q P V H P D V T M K P L P F - 240
tatgaagtctatggggagctcatccggcccaccacccttgcattccacttctagccagcgg
241 Y E V Y G E L I R P T T L A S T S S Q R - 300
tttgaggaagcgcactttaccttgcacccctgacaccaggcaagtgcagcagattttaca
301 F E E A H F T F A L T P Q Q V Q Q I L T - 360
tccagagaggctgcccaggagccaaatgtgattataccatacaggcgcagtaaggttc
361 S R E V L P G A K C D Y T I Q V Q L R F - 420
P
v
u
I
I
tgtctctgtgagaccagctggggccaggaaagattttcccaacctttgtcaag
421 C L C E T S C P Q E D Y F P P N L F V K - 480

Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON
CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.
Attorney Docket Number: 222884/04066

Fig. 3B

B
s
t
E
I
I

gttaatggaaaactgtgccccctgcggggttacccatcccaaccaagaatggggccgag
481 V N G K L C P L P G Y L P P T K N G A E -

ccaaagaggcccagccgccccatcaacatcacacccctggctcgactctcagccactgtt
541 P K R P S R P I N I T P L A R L S A T V -

ccaaacaccattgtggtaattggcatctgagttcgacggaaattactccttgtctgt
601 P N T I V V N W S S E F G R N Y S L S V -

B
P
s
t
I
I

tacctggtgaggcagttgactgcaggaacccttctacaaaaactcagagcaaaggatc
661 Y L V R Q L T A G T L L Q K L R A K G I -

cggAACCCAGACCCTCGCGGGCACTGATCAAGGAGAAATTGACTGCTGACCCCTGACAGT
721 R N P D H S R A L I K E K L T A D P D S -

gaggtggccactacaagtctccgggtgtcactcatgtgccccttaggaaagatgcgcctg
781 E V A T T S L R V S L M C P L G K M R L -

P
s
t
I

actgtcccttgcgtgccctcacctgtgcccacactgcagagcttcgatgctgcccttat
841 T V P C R A L T C A H L Q S F D A A L Y -

ctacagatgaatgagaagaagaaggctacatggacatgtcctgtgtgacaagaaggctcc
901 L Q M N E K K P T W T C P V C D K K A P -

900
960

Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON
CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.
Attorney Docket Number: 222884/04066

Fig. 3C

961 tatgaatctttatcattgatggttatggagattcttagttcctgttcagattgt 1020
Y E S L I I D G L F M E I L S S C S D C -

P B
f a
l m
M H
I I
1021 gatgagatccaattcatggaagatggatcctgggtgccaatgaaacccaagaaggaggca 1080
D E I Q F M E D G S W C P M K P K K E A -

P
f
l
M
I
1081 tctgagggttgcggccagggtatggatggatggcctccagtcagccaggccag 1140
S E V C P P G Y G L D G L Q Y S P V Q -
gggggagatccatcagagaataagaagaaggctgaagttattgacttgacaatagaaagc
1141 1200
G G D P S E N K K K V E V I D L T I E S -

P
v
u
I
I
1201 tcatcagatgaggaggatctgcggccatccaagaagcactgttctgtcacctcagctgcc 1260
S S D E E D L P P T K K H C S V T S A A -
atcccgccctacctggaagcaaaggagtccatctggccaccagccatcctcggtg
1261 1320
I P A L P G S K G V L T S G H Q P S S V -
ctaaggagccctgtatggcacgttgggtgggatttcctgtccagtcactacat
1321 1380
L R S P A M G T L G G D F L S S L P L H -
gagtaccacactgcctcccactggagccgacatccaaggtttagattttcattt
1381 1400
E Y P P A F P L G A D I Q G L D L F S F -

Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON
CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.
Attorney Docket Number: 222884/04066

Fig. 3D

cttcagacagagagtgcgcactatggccctctgtcatcacctcaactagatgaacaggat
1441-----+-----+-----+-----+-----+-----+-----+-----+ 1500
L Q T E S Q H Y G P S V I T S L D E Q D -

A
p
a
I
gcccttggccacttccaggacccttctacttctggccactggcc
1501-----+-----+-----+-----+-----+-----+-----+-----+ 1560
A L G H F F Q Y R G T P S H F L G P L A -

P N
S a
t r
I I
cccacgctggggagctcccactgcagcgccactccggcgccccctctggccgtgtcagc
1561-----+-----+-----+-----+-----+-----+-----+-----+ 1620
P T L G S S H C S A T P A P P P G R V S -

S
a
u
I
agcattgtggccctggggggccttgaggaggaggcatggaggaccctgcctcagg
1621-----+-----+-----+-----+-----+-----+-----+-----+ 1680
S I V A P G G A L R E G H G G P L P S G -

ccctcttgactggctgtcggtcagacatcattccctggactga
1681-----+-----+-----+-----+-----+-----+-----+-----+ 1725
P S L T G C R S D I I S L D * -

Enzymes that do cut:

Apal	BamHI	BsaWI	BstEII	NarI	PflMI	PstI	PvuII
SauI							

Enzymes that do not cut:

AatII	AgeI	AseI	AvaI	BbrPI	BfrI	BglII	BsaBI
BsmI	BssHII	BstBI	BstXI	Clal	DraI	DraIII	EagI
EcoRI	HindIII	HpaI	KpnI	MluI	NcoI	NdeI	NheI
NotI	NruI	NsiI	PmlI	PvuI	SacII	SalI	Scal
SfiI	SmaI	SnaBI	SpeI	SspI	StuI	XbaI	XhoI

Title: PROTEIN THAT ENHANCES EXPRESSION OF POTASSIUM CHANNELS ON
CELL SURFACES AND NUCLEIC ACIDS THAT ENCODE THE SAME

Inventors Name: Brown, et al.
Attorney Docket Number: 222884/04066

Fig. 4

1 MKIKELYRRRFPRKTLGPSDLSLLSLPPGTSPVGSPGPLAPIPPTLLAPG 50
|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
1 MKIKELYRRRFPRKTLGPSDLSLLSLPPGTSPVGSPSPLASIPPTLLPG 50

51 TLLGPKREVDMHPLPQPVHPDVTMKPLPFYEVYGELIRPTTLASTSSQR 100
|||||:|||||:|||||:|||||:|||||:|||||:|||||:
51 TLLGPKREVDMHPLPQPVHPDVTMKPLPFYEVYGELIRPTTLASTSSQR 100

101 FEEAHFTFALTPQQVQQILTSREVLPGAKCDYTIQVQLRFCLCETSCPQE 150
|||||:|||||:|||||:|||||:|||||:|||||:
101 FEEAHFTFALTPQQLQQILTSREVLPGAKCDYTIQVQLRFCLCETSCPQE 150

151 DYFPPNLFVKVNGKLCPLPGYLPPPTKNGAEPKRPSRPINITPLARLSATV 200
|||||:|||||:|||||:|||||:
151 DYFPPNLFVKVNGKLCPLPGYLPPPTKNGAEPKRPSRPINITPLARLSATV 200

201 PNTIVVWSSEFGRNYSLSVYLVRLQLTAGTLLQKLRAKGIRNPDHRSALI 250
|||||:|||||:
201 PNTIVVWSSEFGRNYSLSVYLVRLQLTAGTLLQKLRAKGIRNPDHRSALI 250

251 KEKLTADPDSEVATTSLRVSLMCPLGKMRLLTVPCRALTCAHLQSFDAALY 300
|||||:|||||:
251 KEKLTADPDSEVATTSLRVSLMCPLGKMRLLTVPCRALTCAHLQSFDAALY 300

301 LQMNEKKPTWTCVCDKKAPYESLIIDGLFMEILSSCSDCDEIQFMEDGS 350
|||||:|||||:
301 LQMNEKKPTWTCVCDKKAPYESLIIDGLFMEILNSCSDCDEIQFMEDGS 350

351 WCPMPKKEASEVCPPPGYGLDGLQYSPVQGGDPSENKKVEVIDLTIES 400
|||||:|||||:
351 WCPMPKKEASEVCPPPGYGLDGLQYSPVQEGNQSENKKRVEVIDLTIES 400

401 SSDEEDLPPTKKHCSVTSAAIPALPGSKGVLTSGHQPSVSLRSPAMGTLG 450
|||||:
401 SSDEEDLPPTKKHCPVTSAAI PALPGSKGALTSGHQPSVSLRSPAMGTLG 450

451 GDFLSSLPLHEYPPAFPLGADIQQLDLFSFLQTESQHYGPSVITSLDEQD 500
:|||||:
451 SDFLSSLPLHEYPPAFPLGADIQQLDLFSFLQTESQHYSPSVITSLDEQD 500

501 ALGHFFQYRGTPSHFLGPLAPTLGSSHCSATPAPPGRVSSIVAPGGALR50
|||||:
501 TLGHFFQFRGTPPHFLGPLAPTLGSSHRSATPAPAPGRVSSIVAPGSSLR 550

551 EGHGGPLPSGPSLTGCRSDIISLD* 575
|||||:
551 EGHGGPLPSGPSLTGCRSDVISLD* 575